SEVERE STORMS FOR OCTOBER 1949

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Place	Date	Time	Width of path, yards	Loss of life	Value of property destroyed	Character of storm	Remarks
Woodville (4 miles south of),	8	2;20 p. m	100	0		Tornado	Timber leveled and power lines broken.
Tyler County, Tex. Texas	3-4	Night			\$400,000	Tropical disturbance.	Developed in Gulf of Campeche on 1st, moved northward across Gulf of Mexico, passing inland during night of 3d and 4th with center a short distance west of Freeport at midnight of 3d. Winds reached whole gale force, with gusts of hurricane force in Galveston-Galveston Bay area and tides generally from 4 to 6 feet above normal. Highest tides from Kemah-Seabrook area northward to head of Galveston Bay and in Houston Ship Channel. Lowest barometer at Weather Bureau office in Galveston 29.43 inches at 3:50 a. m., 4th. Fastest mile of wind, 66 m. p. h. from southeast at 11:18 p. m., 3d. Damage in Galveston confined to water fronts, where county fishing pier completely destroyed. Some warehouses on wharves flooded and a few poorly constructed buildings located where no protection by seawall, damaged by wind and washed from foundations. Practically all wooden piers and some water-front buildings greatly damaged or completely destroyed from Texas City to La Porte, as result of winds and high tides. Some roofs damaged and a few minor structural damages in Galveston proper. A bout 550 telephones in Galveston and Texas City out of order. Coastal highway between Port Bolivar and Port Arthur, also Houston highway between mainland end of Causeway and La Marque impassible. Storm path 9 miles long. Hailstones 36 to 1 inch in diameter. Some loss of seed crops and slight damage to wheat. Part of hurricane which moved inland on upper Texas coast on 4th. Heavy rains and high winds damaged mature rice in southwest and open cotton in northwest. Greatest damage to cotton was loss of quality and damage to seed, both for planting and quality for oil is cut about 50 percent. Late cotton undamaged and not more than 20 percent of early crop damaged. Winds up to 60 m. p. h. blew down trees and damaged farm buildings.
Lancaster County (north- eastern portion), Nebr.	4	2-2:15 a. m	1 11/2			Hail	Some loss of seed crops and slight damage to wheat.
Louisiana, western parishes	4-5				15 000	Wind and rain	Part of hurricane which moved inland on upper Texas coast on 4th. Heavy rains and high winds damaged mature rice in southwest and open cotton in northwest. Greatest damage to cotton was loss of quality and damage to seed, both for planting and pro- cessing for oil. Seed obtained afterward of no use for planting and quality for oil is cut about 50 percent. Late cotton undamaged and not more than 20 percent of early crop damaged.
Eddy, Foster, and Barnes Counties, N. Dak. Houston, Tex	5	Afternoon			15, 000	Wind	ings.
	7	8:40 a. m	17	0	6, 000		Storm occurred 3 miles southeast and 5 miles north-northeast of center of Houston. Funnel cloud observed from window of Weather Bureau office. Auto overturned, plate glass broken in cafe, and 2 houses and 1 garage damaged.
Atlanta, Ga	7	Mid-afternoon			500	Thunderstorm	water so great that a low-lying section was flooded to extent that automobiles were almost submerged. Water entered a number of stores, damaging stock and causing moderate damage to yards
Reno County, Kans	9	1:30 p. m	440	0		Tornado	Path extended from 1 mile west to 5 miles north of Hutchinson.
Pawnee and Rush Counties, Kans.	9	3:30–4 p. m	12	0		Tornado and wind	ward to a few miles south of Rush Center. Farm buildings and some crops destroyed, intermittently, along path.
Rush County, Kans	9	4:30 p. m		0	108, 000	do	Damage from 12 miles south of Rush Center to 4 miles east and 5 north of La Crosse. Washing of fields damaged considerable
Osborne County, Kans	9	5 p. m	100	0	35,000	Tornadic	wheat. 2 persons injured as result of auto accidents during storm. Damage in various parts of county. Some homes and business houses damaged in Osborne.
Stafford County, Kans	9	Afternoon		-		Wind	several planes wrecked. Large plate glass windows blown in
McPherson County, Kans	9	do		0		Tornadoes and wind.	along business section. 2 small tornadoes; 1 cloud observed west of McPherson and the other near Mound Ridge, in southeastern portion of county. Windmills and 2 oil derricks blown down and barns and greenhouses unroofed. Some sheep injured. Both storms of short duration.
Kansas City, Mo	9	6:05 p. m	35–70	0	5, 000	Tornado and rain	Storm moved northwestward. In contact with ground for a dis- tance of about 4 city blocks. Most damage to 1 residence and to roofs of a few dwellings. Minor damage to power lines and com-
Beaver and Harper Counties, Okla.	9	7-10 p. m	200-880	0	86, 000	Tornado	munications lines. Twister struck community of Slapout in Beaver County, skipped to Rosston in Harper County, and then to Girard and Willard communities in northern Harper County. Path northeastward for about 35 miles. 2 persons injured. Majority of damage to farm buildings. About \$5,000 damage to grain sorghums. 11 homes in Harper County damaged. Church at Girard destroyed, and 2 trailer homes nearby demolished.
Cloud County, Kans	9	7:15 p. m	100	0		Tornadic	Most damage in southern part of county. Some damage from straight wind, but in southwestern portion there was evidence, by the shrill whistle, of a tornado. A number of farm plants destroyed.
Borger, Hutchinson County,	9	7:45 p. m			25, 000	Wind	Garage destroyed, windows broken, and small house flattened.
Tex. Barton County, Kans	9	8 p. m			9,000	do	Squall moved northeastward. Damage mostly to roofs and crops
Lincoln (northern edge of), Nebr.	9	9:45 p. m	50-150	1	40, 250	Tornado	near Great Bend. In path 2 miles long, twister almost completely destroyed 2 houses and damaged roof and upper portion of another. Much damage to farm buildings and contents. Crop losses and loss of livestock amounted to \$2.500, included in total. 4 persons injured.
Pawnee County, Kans	9	10 p. m			20,000	Wind and hail	Damage in various parts of county. Windows blown in, houses unroofed, and some old buildings blown over. Power and
Rush County, Kans	9	11 p. m		0		Tornado and wind	telephone lines broken. Storm struck northeast of Bison, damaging a number of farm buildings. No defined path. Minor damage at several farms continuent of Bison about the same time.
Mitchell County, Kans	9	11 p. m			250, 000	Wind	southeast of Bison about the same time. Homes and business buildings partially damaged at Beloit. Several buildings at Girls School blown down. 8 persons injured. A number of farm homes, barns, and granaries over county de- stroyed.
Hobart and vicinity, Kiowa	9	11-11:34 p. m	- 		10,000	do	Damage to roofs, fences, trees, signs, and plate glass windows.
County, Okla. Nuckolls County (extreme eastern portion) and Thayer County (extreme northwestern portion), Nebr.	9	11 p. mmid- night.	¹ 1–2	0	55, 000	Tornado	Path 25 miles long. Losses of \$4,000 to crops and \$1,000 to live-stock, included in total.

¹ Miles instead of yards.

SEVERE STORMS FOR OCTOBER 1949—Continued

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Russell County, Kans	1		of path, yards	of life	property destroyed	Character of storm	Remarks
	9	11:15 p. m	1, 320	1	150,000	Tornado	cloud observed. Path extended northeastward across town of Russell. Business houses along Main Street bore brunt of damage. Many plate glass windows blown in, trailer houses turned over, power and telephone services cut off, and a number
Reno County, Kans	9	11:30 p. m	440	0	50, 000	Tornado and wind	of buildings blown down. Damage extended over a considerable portion of county. Tornado moved from near Lerado northwestward 25 miles to about 5 miles west of Hutchinson. Some crops destroyed, but principal damage to buildings. Power and telephone lines blown
Jewell County, Kans	9	Evening				Wind	down. Various parts of county reported damage, but most destruction in southeast, where quite a number of farm houses received more or less damage.
Geary County, Kans	9	Midnight				do	
Beckham and Washite Counties, Okla.	9–10	10:45 p. m1 a. m.	440	0	20,000	Tornado	
Nebraska		Night of 9th-10th to evening of 10th.			1, 000, 000	Wind.	Northward moving intense depression caused at least slight damage in most counties in eastern part of State and some in west. Winds highest in northeast, with gusts up to 75 m. p. h. at Norfolk. Much corn blown from stalks and numerous buildings damaged. About \$10,000 damage to power and telephone lines included in total. Damage from tornadoes and tornadic winds listed on 9th for this State not included in this general storm damage.
Omaha and vicinity, includ- ing Papillion, Nebr.	9–10			1		do	Man killed when he contacted door of car against which power line had blown. Walls blown down. Power lines damaged considerably.
Colorado (east of Continental Divide).	10	Midnight of 9th-5 a. m., 10th.	1 200	2	500, 000	Wind, rain, and snow.	Wind became strongest shortly after midnight, reaching maximum speed of 80 m. p. h. in some localities and averages of 40 to 50 m. p. h. in most areas. A 300,000-pound coal-conveying crane at Valmont power plant near Boulder, valued at \$200,000, was a total loss. Severe losses also resulted from toppled trees, broken telehpone and power lines, and smashed windows. Twolives lost when speeding car rammed wind-felled tree at Saguache.
Marion and Chase Counties, Kans.	10	1 a. m	11		12,000	Wind	Storm damage from southwest of Florence northeastward to 4 miles north of Cedar Point. Some evidence of tornado formation. Plate glass windows broken in Florence. Trees broken and buildings blown over or unroofed.
Hartington (west and northwest of), Nebr.	10	2 a. m	440	0	150, 000	Tornado	Path 8 miles long. Several farm buildings destroyed or damaged, and several houses slightly damaged. Damage from corn blown down, \$75,000.
Wisconsin	. 10	9 a. m. to sunset.		6	1,000,000	Wind	all sections sustained some property damage. Wind speed reached 69 m. p. h. at La Crosse, 65 m. p. h. at Land O'Lakes, and 57 m. p. h. at Duluth, with gusts up to 76 m. p. h. at latter place. Telephone and electric power services disrupted due to broken poles and trees falling across wires. Much minor damage to buildings, such as broken doors and windows, and damaged roofs and chimneys. More than 30 large barns demolished or severely damaged. Much standing corn flattened, resulting in increased harvest costs. Many apples blown from trees. Several persons indured by broken glass, tree limbs, and other objects.
Minnesota, southern, central and northeastern counties.	10	A. m. and p. m		4	2,500.000	do	Strong wind with occasional gusts up to 160 m. p. h. Loss to property extensive, but locally mostly minor. Hundreds of trees uprooted; many poles, wires, radio and high tension towers down; many small boats capsized and docks damaged; Lake Superior traffic impeded; a number of airplanes on ground and in hangars wrecked; at least 50 barns and many outbuildings, garages, silos, windmills, and steel Quonset-type corn cribs demolished; damage to roofs, chimneys, windows and signs particularly severe; many barns moved from their foundations; an \$5-foot high brick chimney toppled; grain elevators, lumber sheds, drive-in theaters partially or totally destroyed; neon signs, billboards and scaffolding downed; falling trees blocked traffic, disrupted communication and power services and wrecked or damaged automobiles; some livestock and poultry perished or injured. More than 81 persons injured. Much corn in shock
Iowa	10	Entire day				do	blown down; damage considerable. Winds of gale and hurricane force made this one of the windiest days on record. Winds swept entire State, but extreme winds concentrated in northern portion. At Mason City airport, peak gust of 90 m. p. h. registered at 12:13 p. m. Also, from 10 a. m. until 2:30 p. m. velocities regularly averaged above 60 m. p. h. Much of the year's corn crop flattened, trees and large limbs blown down disrupting telephone and power services; roofs of buildings ripped off, plate glass windows blown out. Heaviest damage, undoubtedly, to corn crop where early estimates indicated 5 to 7½ bushels of dropped ears per acre on ground. Individual fields varied considerably from this State-wide average. Many sections experienced difficulties with mechanical pickors, making it necessary to either pick corn by hand or turn hogs into fields. At Decorah, high winds dismantled a high television aerial. At Mason City, radio stations off the air part of the day, due to power failure; many telephone lines down; several large store windows blown out. In Des Moines, about 400 wire breaks; gusts registered up to 62 m. p. h.; considerable minor damages. At Fort Dodge, a plane damaged; a drive-in theatre suffered an estimated \$5,000 damage; 15 grain bins under construction destroyed or damaged At Waterloo, 9 men injured vhen wind blew down a big sign display at Dairy Cattle Congress; loss estimated and agricultural, work of Iowa, reports similar to the above. Claims received by wind insurance companies among greatest in their history. Shingles torn from roofs one of the most frequent claims. Over 10 percent of farms in State suffered significant property losses. Overall loss, both property and agricultural, expected to run into millions of dollars.

¹ Miles instead of yards.

MONTHLY WEATHER REVIEW

SEVERE STORMS FOR OCTOBER 1949—Continued

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Place	Date	Time	Width of path, yards	Loss of life	Value of property destroyed	Character of storm	Remarks
Illinois, northern and central portions.	10	All day				wind	Much corn blown down, especially where weakened previously by borers. Property damage small, mainly broken wires and minor roof damage.
South Dakota, eastern portion.	10	Forenoon		2		do	Winds in area east of trajectory of an intense low, Gregory County to Grant County, caused damage to corn crop, buildings, and airplanes. Northerly winds to west of low pressure did less damage. Corn stalks in southeast corner of State downed easily, having been previously damaged by corn borer. Corn crop greatest loss, since windstorm/came at corn-picking time. Gusts reached 60 to 70 m.p.h. Strong winds of 50 m.p.h. or more continued for 60 minutes during passage of center of storm. Station barometer readings dropped to record lows of 27.377 inches at Huron and 27.325 inches at Sioux Falls.
Barnes, Ramsey, and Richland Counties, N. Dak.	10	Afternoon				do	Winds reaching 65 m.p.h., damaged standing corn, and farm build- ings. Buildings at Wahpeton damaged.
Western Upper Michigan	10					do	Hurricane force winds isolated communities by interrupting power and telephone services up to 3 days. Barns, houses, airplanes, and trees blown over; windows and signs broken. Small vessels damaged in Lake Superior and Lake Michigan. Probably highest sustained winds ever observed in this area. One death occurred at Marquette when electrician touched truck charged by broken wire.
Western Lower Michigan	10					do	Gale winds caused minor damage to timber and old buildings. In fruit area, late apples still on trees lost.
Billings, Mont	10					do	Slight damage to trees and shrubs. Store window blown in. Heavy hall with marble size stones fell in southern portion of county.
Taylor County, FlaLagrange, Ga	11 17	3–3:10 p.m				do Hail Electrical and hail	Local thunderstorm, accompanied by lightning and hail, caused mostly light damage. Electric service interrupted. Lightning stunned 1 person, who received first-degree burns.
Great Falls (20 miles north of),	17-18			1		Blizzard	Man found dead in car which stalled in snowbank.
Mont. Shelby, Mont. Idsho, south-central and southeastern portions.	17–18 17–19		 	1		Snow and electrical	Boy lost in storm, frozen to death. During 3-day period snowfall nearly continuous, much of it melting as it fell, or soon afterward, but with enough accumulation, particularly at higher elevations, to produce a definite hazard to highway traffic and greatly delay harvesting of potatoes and sugarbeets. On 18th lightning struck farm home near Idaho Falls, injuring 6 persons by shock, flying glass, and burns.
Oklahoma City, Okla	18	4 p.m				Electrical	Lightning struck house under construction, causing minor damage.
Jackson County, Kans	20	3 p. m	880	0	10, 000	Tornado and rain	Lightning struck house under construction, causing minor damage. 5 carpenters knocked down by the bolt, but only 1 injured. Path of damage extended from 2 miles southwest of Hoyt to 3 miles northeast of town. No funnel cloud observed, due to heavy rains. Houses, barns, and outbuildings destroyed, and power and communications lines cut. A large truck toppled from highway.
Abilene (1 mile north of), Tex.	21	12:15 a. m	15	1	4,000	Tornado	
Jacksonville, Ill	21	3 a. m			 	Wind	A partially completed church building badly damaged. Several
Great Falls, Mont	28	Afternoon			 	do	trees uprooted, breaking utility lines. Extremely high winds began about 3:10 p. m. and lasted until 3:26
							p. m., with gusts reaching 86 m. p. h. at about 3:20 p. m. 2 planes that broke loose were damaged, 1 loosing its fuselage, also 1 damaged a third that was tied down
Flathead Valley, Mont	28					do	
New Market, Del	31	6:15 s. m		0	16, 500	Tornado	from 2:15 to 5 p. m. 2 dwellings wrecked beyond repair, 5 more damaged extensively, and several barns and chicken houses flattened by freak twister. Although no one was hurt seriously, 1 man was taken to a hospital and X-rayed. A horse and mule injured when barn collapsed Trees blown through upper story windows of home, causing considerable damage. 3 tractors damaged.

¹ Miles instead of yards.